

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY**

NIPPON STEEL & SUMITOMO METAL
CORPORATION,

Plaintiff,

V.

POSCO et al.,

Defendants.

Civil Action No. 12-2429 (SRC)

OPINION & ORDER

CHESLER, District Judge

This matter comes before the Court on the application for claim construction by Plaintiff Nippon Steel & Sumitomo Metal Corporation (“Nippon”) and by Defendants POSCO and POSCO America Corporation (collectively, “POSCO”). In this patent infringement suit involving patents on steel-manufacturing methods, the parties seeks construction of claims in four patents: U.S. Patent Nos. 5,261,972 (“the ’972 patent”); 6,613,160 (“the ’160 patent”); 7,442,260 (“the ’260 patent”); and 7,976,644 (“the ’644 patent”).

ANALYSIS

I. The law of claim construction

A court’s determination “of patent infringement requires a two-step process: first, the court determines the meaning of the disputed claim terms, then the accused device is compared to the claims as construed to determine infringement.” *Acumed LLC v. Stryker Corp.*, 483 F.3d

800, 804 (Fed. Cir. 2007). The Court decides claim construction as a matter of law: “the construction of a patent, including terms of art within its claim, is exclusively within the province of the court.” Markman v. Westview Instruments, 517 U.S. 370, 372 (1996).

The focus of claim construction is the claim language itself:
It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude. Attending this principle, a claim construction analysis must begin and remain centered on the claim language itself, for that is the language the patentee has chosen to ‘particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.’

Innova/Pure Water, Inc. v. Safari Water Filtration Sys., 381 F.3d 1111, 1115-1116 (Fed. Cir. 2004) (citations omitted).

The Federal Circuit has established this framework for the construction of claim language:

We have frequently stated that the words of a claim ‘are generally given their ordinary and customary meaning.’ We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application. The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. . .

In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. In such circumstances, general purpose dictionaries may be helpful. In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean. Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning

relevant scientific principles, the meaning of technical terms, and the state of the art.

Phillips v. AWH Corp., 415 F.3d 1303, 1312-1314 (Fed. Cir. 2005) (citations omitted).

II. Claim construction of the disputed terms

A. The dispute over the CO₂ laser in the '260 patent

The parties have presented to the Court two similar disputes, both involving questions of whether phrases in claims in the '260 patent exclude use of a CO₂ laser. The phrases at issue are “continuous wave laser beam” and “the laser is of a TEM₀₀ mode.” Nippon contends that the first phrase has its ordinary meaning, while POSCO proposes this construction: “a continuous wave laser beam from a non-CO₂ laser.” As to the second phrase, Nippon proposes this construction: “the laser includes a mode having a beam with an intensity profile that is substantially Gaussian.” For the second phrase, POSCO proposes this construction: “the non-CO₂ laser is of a TEM₀₀ mode.” The parties appear to agree that the claim construction issues for the two phrases are quite similar and both have briefed in detail the construction of the second phrase, contending that the construction of the first phrase follows accordingly.

As to the issue of whether the two phrases should be construed to exclude use of a CO₂ laser, this Court agrees with Nippon that no such exclusion should be inserted into these claims, largely for the reasons well articulated in Nippon’s responsive brief. As Nippon contends, the first problem for POSCO is that this does not seem to be an issue of claim construction. Neither party has pointed to any specific claim word or phrase for which a specific question of interpretation has arisen. The briefs describe no question about any of the words in the phrases, “continuous wave laser beam” and “the laser is of a TEM₀₀ mode.” The parties have pointed to

no ambiguity in these phrases; there is no disagreement about what any of the component words means. Rather, as Nippon contends, this dispute appears to have arisen not from any true question about the meaning of claim language, but from POSCO's attempt to insert a claim limitation into the existing claims. This Court finds no justification for rewriting the existing claim language in the '260 patent to add in an additional limitation.

POSCO builds its argument largely on the undisputed fact that the specification of the '260 patent deals largely with a best mode example which uses a fiber laser, which the parties seem to agree is not a CO₂ laser. As Nippon contends, the Federal Circuit has made clear that courts should not limit claim terms to preferred embodiments:

[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments. In particular, we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.

Phillips, 415 F.3d at 1323 (citations omitted). To import a claim limitation from the specification, the Federal Circuit requires a "clear disavowal of claim scope:"

Mere criticism of a particular embodiment encompassed in the plain meaning of a claim term is not sufficient to rise to the level of clear disavowal. *Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1335 (Fed. Cir. 2009) (holding that even a direct criticism of a particular technique did not rise to the level of clear disavowal). In *Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, we explained that even where a particular structure makes it "particularly difficult" to obtain certain benefits of the claimed invention, this does not rise to the level of disavowal of the structure. 620 F.3d 1305, 1315 (Fed. Cir. 2010). It is likewise not enough that the only embodiments, or all of the embodiments, contain a particular limitation. We do not read limitations from the specification into claims; we do not redefine words. Only the patentee can do that. To constitute disclaimer, there must be a clear and unmistakable disclaimer.

Thorner v. Sony Computer Entm't Am. LLC, 669 F.3d 1362, 1366-1367 (Fed. Cir. 2012).

Here, POSCO has not pointed to any expression of manifest exclusion of CO₂ lasers in the specification. Instead, it has pointed to a preferred embodiment which is not a CO₂ laser and, at most, some disparagement of CO₂ lasers in the specification:

Further, although the wavelength of a fiber laser is less absorbed at the surface of grain-oriented electrical steel compared with that of a CO₂ laser, it is difficult to obtain a focused spot diameter of 0.2 mm stably in practice utilizing long wavelength CO₂ laser, so again the technology of the invention is much more advantageous compared with use of a CO₂ laser.

'260 patent, col.8 ll.25-31. This specification statement unquestionably disparages the use of the CO₂ laser. As Nippon observes, however, in Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc., 620 F.3d 1305, 1315 (Fed. Cir. 2010), even though the Federal Circuit stated that the specification “actively disparages” a particular design, “this does not rise to the level of an express disclaimer sufficient to limit the scope of the claims.” See also Thorner, 669 F.3d at 1366 (“mere criticism” of an embodiment not a disavowal). Similarly, the disparagement of the use of a CO₂ laser in the '260 patent specification does not rise to the level of an express disclaimer.

Furthermore, the specification contains language which indicates a rejection of the restriction POSCO advocates:

Further, for the method of the present invention, a fiber laser easily giving a high output TEM₀₀ mode laser beam is optimal, but any laser apparatus giving a mode close to the TEM₀₀ and a wavelength absorbed at the surface of the steel sheet may be used in the present invention.

'260 patent, col 8. ll.42-46. This suggests that POSCO's position is incorrect and that the patentees, while preferring the fiber laser, nonetheless intended that “*any* laser apparatus” with the stated characteristics may be used in the invention. This contradicts POSCO's assertion that

the patentees intended to exclude use of a CO₂ laser.

Lastly, as Nippon observes, dependent claim 6 requires use of a fiber laser, thus requiring that the scope of claim 1 be broader than that of claim 6, extending beyond that preferred embodiment.

The parties have failed to persuade this Court that the phrases, “continuous wave laser beam” and “the laser is of a TEM₀₀ mode,” should be understood to have anything but their ordinary meaning.

B. Indefiniteness in terms in the '160 and '644 patents

POSCO contends that one phrase in the claims of the '160 patent and one in the claims of the '644 patent render these claims indefinite. The Federal Circuit’s standard for finding indefiniteness is a demanding one: the claims must be “insolubly ambiguous.” Halliburton Energy Servs. v. M-I LLC, 514 F.3d 1244, 1249 (Fed. Cir. 2008). Moreover:

[T]his standard is met where an accused infringer shows by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area.

Id. at 1249-50. Again, POSCO fails to persuade that these are matters that can be usefully addressed by claim construction. POSCO first argues that the phrase “controlling the ratio $I\{111\}/I\{411\}$ in the texture after the decarburization annealing so as not to exceed 3.0” is insolubly ambiguous. Yet POSCO’s basis for this is the assertion that “any attempt to measure the claimed crystal grain structure by the method identified in the patent will always result in a value of 0.” (Def.’s Br. 20.) Even if this assertion is true, POSCO has not explained why it renders the phrase at issue insolubly ambiguous. POSCO argues that the patent specification

states that one measures diffraction intensity by x-ray diffraction, and that POSCO has an expert who says that such measurement will always yield a value of zero. Again, even if true, how does this show the cited claim language to be insolubly ambiguous? The claim language speaks to the value of a ratio, not to a method of measurement. Even if POSCO were correct, that the measurement method described in the specification can only yield a zero value, POSCO has not explained why such a problem renders the ratio limitation in the claim insolubly ambiguous.¹ Perhaps there is an enablement issue, if the specification fails to adequately disclose how to make and use the invention. But POSCO has pointed to no claim words which have an unclear meaning, no less an insolubly ambiguous one.

POSCO next argues that the phrase “lamellar spacing” in the ’644 patent is insolubly ambiguous, but relies solely on the argument that the patent “provides insufficient guidance on how to measure it.” (Defs.’ Br. 23.) Again, this sounds more like an enablement issue, not a question about what the phrase “lamellar spacing,” as used in the claims, means.

C. The remaining terms

The parties have briefed putative disputes over a number of other terms. In short, this Court has not been persuaded that claim construction is needed for any of these terms.

POSCO contends that the phrase “focused beam spot diameter,” which appears in claims 1 and 5 of the ’260 patent, is indefinite. Setting aside the question of whether invalidity for indefiniteness under paragraph 2 of 35 U.S.C. § 112 is properly before the Court during a

¹ Rather, if POSCO understands the ratio limitation in the claim well enough to argue that the method stated in the specification to measure it can only yield a zero value, does that not suggest that the claim language is *not* insolubly ambiguous?

Markman proceeding,² POSCO has not come close to meeting the Federal Circuit's standard for indefiniteness, that the claim language be "insolubly ambiguous." POSCO offers nothing more than the conclusory assertion that there is no ordinary meaning of "focused" for the skilled artisan. (Def.'s Br. 30.) That barely starts the process of considering whether this phrase is indefinite under Halliburton. The parties do not dispute that the specification contains an express definition of the phrase "beam spot diameter." '260 patent, col.4 ll.48-50. POSCO has failed to point to anything close to clear and convincing evidence that "focused beam spot diameter" is insolubly ambiguous.

The parties have briefed a dispute over an additional group of terms, but they disagree whether claim construction is needed: POSCO contends that construction of these terms is needed, while Nippon contends that the meaning of the terms is clear and that construction is unnecessary. This Court agrees with Nippon. The meaning of these additional claim terms appears to be clear on their face, and POSCO's proposed constructions merely reword them in minor ways that provide no elucidation to matters which required none. As Nippon observes, Federal Circuit law holds that claim terms having plain meanings "do not require additional construction." ActiveVideo Networks, Inc. v. Verizon Communs., Inc., 694 F.3d 1312, 1326 (Fed. Cir. 2012). "[A] party wishing to alter the meaning of a clear claim term must overcome the presumption that the ordinary and accustomed meaning is the proper one, demonstrating why such an alteration is required." K-2 Corp. v. Salomon S.A., 191 F.3d 1356 (Fed. Cir. 1999). POSCO has not done so.

² See, e.g., LG Elecs. U.S.A., Inc. v. Whirlpool Corp., 2011 U.S. Dist. LEXIS 44342 (D.N.J. Apr. 25, 2011) (discussing why deciding indefiniteness is better done at summary judgment than during claim construction).

This additional set of terms may be broken into five groups, following POSCO's opening brief. In the first group are one phrase in the '972 patent and one phrase in the '644 patent, related to the process of nitriding after decarburization annealing. In claim 1 of the '972 patent, POSCO points to this phrase: "the steel strip is nitrided between when said decarburization annealing is completed and when the temperature reaches a secondary recrystallization initiation temperature of the steel strip in said finish annealing." In claim 2, POSCO points to this phrase: "decarburization annealed steel strip is treated to increase nitrogen in the decarburization annealed steel strip from the decarburization annealing to the start of secondary recrystallization in the final annealing."

Both of these claims disclose a steel production method with multiple steps. POSCO argues that its proposed construction clarifies the sequence of steps in the claim. This Court finds the sequence of steps in the claim clear on the face of the claim language and finds no need for clarification as to the sequence. POSCO's two proposed constructions add neither clarity nor light in regard to claim language which has a readily ascertainable sequence of steps as written.

In the second group is one phrase from the '644 patent related to using only induction heating during decarburization. Claims 1 and 2 contain this phrase: "during decarburization annealing in a heating process consisting of only induction heating." The crux of POSCO's construction appears to be to replace the phrase "in a heating process consisting only of induction heating" with the phrase "using only induction heating." Again, this Court notes POSCO's failure to identify specific interpretative problems arising from specific words in the phrase at issue. What exactly is the interpretive problem here? How does POSCO's proposed rewording solve this interpretive problem? There appears to be no dispute that the element of the claim in

focus restricts the heating to only induction heating – if there is a dispute, it certainly is not mentioned in the briefs. Again, the parties have demonstrated no claim construction problem here that is helped by POSCO’s proposed rewording.

In the third group are two uses of the phrase, “unavoidable impurities,” one in claim 2 of the ’972 patent, and one in claim 1 of the ’160 patent. POSCO proposes that these phrases should be construed to mean, “impurities that cannot be avoided.” Again, this Court sees neither an interpretive problem nor a solution here. The same holds true for the fifth group, a set of ten phrases presenting numerical ranges, as follows:

’972 patent: “at a temperature of 1200°C or below,” “0.015% or less of S,” “less than 0.010% of N,” and “soaking the strip at the determined temperature, T°C., for 180 sec or less;”

’160 patent: “a heating temperature of 1,280°C. or below,” “0.085% or less of C,” and “0.012% or less of N;”

’644 patent: “at a temperature of 1,280°C. or less,” “C: 0.085% or less,” and “N: 0.012% or less.”

Lastly, the fourth group consists of the phrase “high magnetic flux density” in the ’972 patent. The ’972 patent has two claims, and the parties do not dispute that the phrase appears within a preamble phrase in both claims. Claim 1 begins: “A process for producing a grain-oriented electrical steel strip having a high magnetic flux density, comprising the steps of: . . .” and is followed by phrases describing steps in a manufacturing process. At issue is whether these two claims should be limited, as POSCO contends, to a steel product with a magnetic flux density of 1.93 Tesla or higher. The Federal Circuit has set forth these basic principles to guide this inquiry:

In general, a preamble limits the invention if it recites essential structure or steps,

or if it is “necessary to give life, meaning, and vitality” to the claim. *Pitney Bowes*, 182 F.3d at 1305. Conversely, a preamble is not limiting “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

Catalina Mktg. Int'l v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed. Cir. 2002). POSCO argues that the preamble phrase at issue does breathe life and meaning into the claim. This assertion is purely conclusory: POSCO offers no analysis of the claim language which follows the preamble and no explanation of how the preamble phrase gives meaning to that claim language. POSCO has not even attempted to explain how this preamble language gives meaning to the body of the claim that follows.

Central to the Federal Circuit’s approach to claim construction of preamble language is the issue stated in Catalina: is the claim body a complete invention, or is something missing that is explained by the language in the preamble? POSCO has not offered any analysis to address these questions.

Furthermore, POSCO’s responsive brief raises some problems. The brief quotes from this statement in Catalina: “when reciting additional structure or steps underscored as important by the specification, the preamble may operate as a claim limitation.” *Id.* at 808. Yes, that is what the Federal Circuit has held; so, how does the cited preamble phrase recite additional structure? POSCO has made no showing that the preamble phrase at issue should be understood to recite additional structure.

The Court also notes that, as Plaintiff argues, the preamble phrase at issue looks most like a statement of intended use. “Preamble language that merely states the purpose or intended use of an invention is generally not treated as limiting the scope of the claim.” Bicon, Inc. v.

Straumann Co., 441 F.3d 945, 952 (Fed. Cir. 2006). POSCO has not persuaded this Court otherwise. Finally, even if this Court were to construe the preamble language as a claim limitation, POSCO's attempt to draw a line at 1.93 Tesla based on the specification does appear to be an attempt to limit the claims to the preferred embodiment, which is disfavored.

POSCO has failed to persuade this Court that the requirements of Catalina have been met, such that the preambles, as POSCO has proposed to construe them, should be understood to limit the claims.

In conclusion, this Court finds no need for claim construction in regard to most of the terms presented by the parties on this application. The only claim construction disputes which this Court here resolves are the ones involving the use of a CO₂ laser in the '260 patent. The phrases at issue, "continuous wave laser beam" and "the laser is of a TEM₀₀ mode," are construed to have their ordinary meaning. As to the following claim terms, the Court finds that they do not need claim construction:

- '160 patent: "controlling the ratio $I\{111\}/I\{411\}$ in the texture after the decarburization annealing so as not to exceed 3.0"
- '644 patent: "lamellar spacing"
- '260 patent: "focused beam spot diameter"
- '972 patent: "the steel strip is nitrided between when said decarburization annealing is completed and when the temperature reaches a secondary recrystallization initiation temperature of the steel strip in said finish annealing" and "decarburization annealed steel strip is treated to increase nitrogen in the decarburization annealed steel strip from the decarburization annealing to the start of secondary recrystallization in the final annealing"
- '644 patent: "during decarburization annealing in a heating process consisting of only induction heating"

- '972 patent, '160 patent: "unavoidable impurities"
- '972 patent: "high magnetic flux density"
- '972 patent: "at a temperature of 1200°C or below," "0.015% or less of S," "less than 0.010% of N," and "soaking the strip at the determined temperature, T°C., for 180 sec or less"
- '160 patent: "a heating temperature of 1,280°C. or below," "0.085% or less of C," and "0.012% or less of N"
- '644 patent: "at a temperature of 1,280°C. or less," "C: 0.085% or less," and "N: 0.012% or less."

SO ORDERED.

s/ Stanley R. Chesler
Stanley R. Chesler, U.S.D.J.

Dated: June 4, 2014